## REMARKS

### *Amendment to the Claims*

The present amendment more clearly states the presently claimed invention. No new matter is introduced through these amendments.

### *Status of the Claims and General Summary of Claim Rejections*

Claims 1-41 are pending in the present application. Claims 1-3, 14, 15, 19 and 24-27 have been rejected under 35 U.S.C. § 102 (b) as being anticipated by Rege et al., U.S. Patent No. 5,579,052. See *Office Action*, 3-8. Claims 16 and 17 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Rege. See *Office Action*, 8-10. Claims 4, 10, 11, 18 and 20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Rege in view of McGuinness, U.S. Patent No. 6,104,416. See *Office Action*, 10-14. Claims 5-9 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Rege and McGuinness in view of Sorin, U.S. Patent No. 6,631,164. See *Office Action*, 14-18. Claim 12 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Rege in view of Levy, U.S. Patent No. 5,170,251. See *Office Action*, 18-19. Claim 13 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Rege and Levy in view of McGuinness. See *Office Action*, 19-20. Claims 21-23 and 28-41 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Artieri, U.S. Patent No. 5,579,052 in view of Rege. See *Office Action*, 20-53. The Applicant respectfully traverses all rejections herein.

### *35 U.S.C. § 102(b) Rejection per Rege*

The Examiner has rejected Claims 1-3, 14, 15, 19 and 24-27 under 35 U.S.C. § 102 (b) as being anticipated by Rege. See *Office Action*, 3-8. The Applicant respectfully traverses this rejection.

The Applicant respectfully submits that Rege does not anticipate claim 1 as previously presented. Claim 1 reads as follows:

> A method for generating memory requests to fetch read data from a plurality of locations in a memory, the memory comprising a plurality of memory pages, each of the memory pages having a plurality of words, the method comprising the steps of:
>> determining the locations of the read data in the memory;
>> *selecting a packetization scheme based on the locations of the read data;*
>> assembling at least one read command for addressing the plurality of locations of the read data; and
>> fetching the read data from the memory locations and *combining it into a plurality of data packets in accordance with the selected packetization scheme,* wherein at least one data packet contains data fetched from each of a plurality of memory pages.

In the first instance, Rege has nothing to do with the present invention. The present invention has to do with reducing the bandwidth necessary to retrieve pixel data. Rege, on the other hand, "relates to a communication interface adapter employing buffer memory in the transfer of data packets between a data network and a host computer." Col. 1:9-12. The Background of the Invention in Rege concludes by stating that "[i]t is desirable to minimize packet loss that arises from buffer memory congestion in the host network adapter." Col. 1:57-59. The Description of the Preferred Embodiment of Rege begins by discussing "congestion control" and "bringing back the operation of the network to a stable point after it has reached severe overload and has potentially lost one or more packets." Col. 3:5-7. These are clearly completely different functions.

The inapplicability of Rege to the present invention is further demonstrated by the lack of common language. The words "bandwidth," "packetizing," "packetization" or "combining" never appear in Rege. The word "scheme" appears once, in the name of an article cited. Col. 13:58. The word "combination" appears once, with reference to the combination of two time periods constituting a "cycle." Col. 13:44-45. Similarly, the

words "loss," "lost," "congestion," or "overload" never appear in the specification of the present invention.

Further, and also telling, is the fact that the Examiner previously cited Artieri as the basis of a rejection under § 102 (b) and as the primary basis of a rejection under § 103. The Examiner concedes that Applicant's arguments regarding Artieri are persuasive and has withdrawn those rejections, but has, in essence, replaced the admittedly deficient Artieri reference with Rege. But Artieri and Rege do not fall within a single common U.S. Class or International Class, and do not even share a single common class in the recited Fields of Search. Clearly, Rege is not in the same field as Artieri, or as the present invention.

Notwithstanding the clear conclusion that these are completely different inventions, the Examiner purports to find all of the elements of claim 1 in Rege. The Examiner states in part:

> Rege discloses a method . . . comprising the steps of determining the locations of the read data in the memory ( . . . Col. 6, lines 29-35, 57-59). Packets smaller than 512 bytes are stored in one page 305, packets between 512 and 1024 bytes are stored in two pages 305, etc. (Col. 6, lines 18-22.). *Therefore the packetization scheme is selected based on how many pages of data need to be read.* Since the memory stores the plurality of pages (Col. 6, lines 14-18), this means that each page has an allocation in memory. *Therefore the packetization scheme is selected based on the locations of the read data* (Col. 6, lines 18-22). Rege discloses . . . *combining [the read data] into a plurality of data packets in accordance with the selected packetization scheme* . . . ( . . . Col. 6, lines 12-48, 60-68; . . . Col. 7, lines 1-12, 36-48).

*Office Action*, 3-4 (emphasis added).

Applicant respectfully submits that the Examiner has misread Rege and improperly concluded, as emphasized above, that it teaches the packetization scheme of the present invention. While Rege does teach *storing* packets in a plurality of "pages" of 512 bytes each and retrieving them, it does not teach packetizing data, i.e., *creating* packets (or

altering the data within them), in any way. Nowhere in Rege is there any suggestion that the buffer *selects* a scheme for packetizing the data received from some memory based upon the location in that memory from which the data came and then combines the data into packets according to that scheme. The buffer of Rege merely receives the packets, stores them sequentially after breaking them into segments 512 bytes long, and then retrieves them sequentially.

Thus, the Examiner's statement that "[t]herefore the packetization scheme is selected based on how many pages of data need to be read" is false. To the contrary, it is the previously selected packetization scheme that determines what data is in the packet and thus how many pages of data need to be read, as the number of pages follows directly from the number of bytes in the packet.

A plain reading of the cited portions of Rege clearly shows that they do not in fact support the Examiner's inferences. For example, for the proposition that "[t]herefore the packetization scheme is selected based on the locations of the read data" the Examiner cites Rege at Col. 6:18-22. However, these lines actually state only that:

> A page 305 is the smallest unit of buffering for packets, so that packets smaller than 512 bytes are stored in one page 305, packets between 512 and 1024 bytes are stored in two pages 305, etc.

Even if merely dividing a packet into fixed length units could be characterized as a "scheme," Rege does not teach selecting such a scheme based upon the locations of the read data, but only based upon the predefined length of pages in the buffer.

In another portion cited by the Examiner, Rege states that "[e]ach ring entry 306 contains ... a "start of packet" (SOP) bit 308 [and] an "end of packet" (EOP) bit 309." Col. 6:29-31. This again indicates that the buffer of Rege is not selecting a packetization scheme but merely taking the packet in the form in which it is delivered to the buffer.

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The Examiner is making the same mistake with respect to Rege as with the prior rejection based on Artieri, and continues to ignore the limitations that the data to be fetched is retrieved from a plurality of locations in the memory and then *combined* into a plurality of data packets in accordance with a *packetization scheme based upon the locations of the data.* As with Artieri, Rege has nothing to do with how the data is packetized or with selecting a packetization scheme based upon the locations of the data in memory.

Both Artieri and Rege concern the *order* in which the packets are read from memory. Artieri indicates that they need not be read in the same sequence in which they are stored, while in Rege they are read in the same sequence. This has nothing to do with how the packets are *created*. In Artieri, the data is arriving already assembled into packets of fixed size, and Artieri does not teach or suggest selecting a packetization scheme that might vary with the location of the data or assembling, or combining the data into, the packets. Similarly, in Rege the data arrives already assembled into packets which are merely stored in segments of fixed size, and there is no suggestion of a packetization scheme that varies with the location of the data or any assembling or combining of the data in any different form.

Nowhere does Artieri teach or suggest retrieving the data in any other fashion other than in packets of fixed size; rather, it is limited to storing and reading the data in the same packetized form as it is stored (if not in the same order of packets), and no other method of retrieving the data is disclosed. Again, similarly Rege does not teach or suggest retrieving the data in any other fashion than that in which it is stored in the buffer, but rather is limited to storing the data in fixed length segments and sending the data on in the same packetized form in which it was received.

For at least these reasons, Rege does not anticipate claim 1.

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Independent claim 19 similarly requires that a read command requesting the read data include specifications for including in the data packets a plurality of *selected portions* of the read data from the plurality of memory pages, and that instructions relating to a manner in which the read data requested is to be obtained from the memory be sent to the memory. As above, Rege fails to show packing selected portions of the read data into data packets according to the specifications of a read command or sending instructions about how to retrieve the data, but rather only shows that an *entire* received data packet may be broken into fixed length portions for storage in and retrieval from the buffer. There is no modification of the packet, no selecting of portions of the data to be included, and no connection shown between the packetization scheme and the read command.

Claims 24-27 are computer readable medium and means for claims with similar limitations to claims 1 and 19 and are allowable for the same reasons.

As a matter of law, any dependent claim that depends from an allowable independent claim cannot be obvious and/or anticipated in and of itself. See 35 U.S.C. § 112, ¶ 4. Since the Applicant has evidenced the allowability of independent base claims 1 and 19, the Applicant contends that dependent claims 2-18 and 20 of the present application are also allowable.

### 35 U.S.C. § 103(a) Rejections per Artieri in view of McGuinness

The Examiner has rejected claims 7, 9, 10-11 and 18 pursuant to 35 U.S.C. § 103(a) as being unpatentable over Artieri in view of McGuinness. *Final Office Action*, 16-19. All of these claims depend from claim 1. As a matter of law, any dependent claim that depends from an allowable independent claim cannot be obvious and/or anticipated in and of itself. See 35 U.S.C. § 112, ¶ 4. Since the Applicant has evidenced the allowability of independent base claim 1, the Applicant contends that dependent claims 7, 9, 10-11

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and 18 of the present application are also allowable. The Applicants thus respectfully request the rejection of claims claims 7, 9, 10-11 and 18 as being unpatentable over Artieri in view of McGuinness under 35 U.S.C. § 103 be withdrawn.

### *35 U.S.C. § 103(a) Rejections per Rege*

The Examiner has rejected claims 16 and 17 pursuant to 35 U.S.C. § 103(a) as being unpatentable over Rege. *Office Action,* 9. Claims 16 and 17 depend from claim 1. As a matter of law, any dependent claim that depends from an allowable independent claim cannot be obvious and/or anticipated in and of itself. See 35 U.S.C. § 112, ¶ 4. Since the Applicant has evidenced the allowability of independent base claim 1, the Applicant contends that dependent claims 16 and 17 of the present application are also allowable. The Applicants thus respectfully request the rejection of claims 16 and 17 as being unpatentable over Rege pursuant to 35 U.S.C. § 103(a) be withdrawn.

### *35 U.S.C. § 103(a) Rejections per Rege in view of McGuinness*

The Examiner has rejected claims 4, 10, 11, 18 and 20 pursuant to 35 U.S.C. § 103(a) as being unpatentable over Rege in view of McGuinness. *Office Action,* 10. Claims 4, 10, 11 and 18 depend from claim 1. Claim 20 depends from claim 19. As a matter of law, any dependent claim that depends from an allowable independent claim cannot be obvious and/or anticipated in and of itself. See 35 U.S.C. § 112, ¶ 4. Since the Applicant has evidenced the allowability of independent base claims 1 and 19, the Applicant contends that dependent claims 4, 10, 11, 18 and 20 of the present application are also allowable. The Applicants thus respectfully request the rejection of claims 4, 10, 11, 18 and 20 as being unpatentable over Rege in view of McGuinness pursuant to 35 U.S.C. § 103(a) be withdrawn.

### 35 U.S.C. § 103(a) Rejections per Rege and McGuinness in view of Sorin

The Examiner has rejected claims 5-9 pursuant to 35 U.S.C. § 103(a) as being
unpatentable over Rege and McGuinness in view of Sorin. *Office Action*, 14. Claims 5-9
depend from claim 1. As a matter of law, any dependent claim that depends from an
allowable independent claim cannot be obvious and/or anticipated in and of itself. See
35 U.S.C. § 112, ¶ 4. Since the Applicant has evidenced the allowability of independent
base claim 1, the Applicant contends that dependent claims 5-9 of the present
application are also allowable. The Applicants thus respectfully request the rejection of
claims 5-9 as being unpatentable over Rege and McGuinness in view of Sorin pursuant
to 35 U.S.C. § 103(a) be withdrawn.

### 35 U.S.C. § 103(a) Rejections per Rege in view of Levy

The Examiner has rejected claim 12 pursuant to 35 U.S.C. § 103(a) as being unpatentable
over Rege in view of Levy. *Office Action*, 18. Claim 12 depends from claim 1. As a
matter of law, any dependent claim that depends from an allowable independent claim
cannot be obvious and/or anticipated in and of itself. See 35 U.S.C. § 112, ¶ 4. Since the
Applicant has evidenced the allowability of independent base claim 1, the Applicant
contends that dependent claim 12 of the present application is also allowable. The
Applicants thus respectfully request the rejection of claim 12 as being unpatentable over
Rege in view of Levy pursuant to 35 U.S.C. § 103(a) be withdrawn.

### 35 U.S.C. § 103(a) Rejections per Rege and Levy in view of McGuinness

The Examiner has rejected claim 13 pursuant to 35 U.S.C. § 103(a) as being unpatentable
over Rege and Levy in view of McGuinness. *Office Action*, 19. Claim 13 depends from
claim 1. As a matter of law, any dependent claim that depends from an allowable

independent claim cannot be obvious and/or anticipated in and of itself. See 35 U.S.C. § 112, ¶ 4. Since the Applicant has evidenced the allowability of independent base claim 1, the Applicant contends that dependent claim 13 of the present application is also allowable. The Applicants thus respectfully request the rejection of claim 13 as being unpatentable over Rege and Levy in view of McGuinness pursuant to 35 U.S.C. § 103(a) be withdrawn.

*35 U.S.C. § 103(a) Rejections per Artieri in view of Rege*

The Examiner has rejected claims 21-23 and 28-41 pursuant to 35 U.S.C. § 103(a) as being unpatentable over Artieri in view of Rege. *Office Action*, 10.

With respect to claim 21, the Examiner admits that "Artieri does not teach determining a packetization scheme used to packetize the liminance and chrominance chunks into the plurality of data packets based upon the locations in memory of the data; and unpacking based on the packetization scheme." *Office Action*, 21. The Examiner contends that Rege provides such a packetization scheme. *Id.* For the reasons set forth above with respect to claim 1, Rege does not provide such a packetization scheme, and thus the combination of Artieri and Rege likewise cannot provide a packetization scheme. Accordingly, claim 21 is allowable over Artieri in view of Rege.

Similarly to claim 19, claim 28 requires means for packing the fetched reference pixel data into a plurality of data packets according to the specifications of the memory commands. Rege does not teach packing reference pixel data into data packets, but merely receiving data packets and storing them as words in a plurality of memory pages. Further, the "memory commands" of Rege are merely commands to retrieve data from specified memory pages and link them together in sequence to recreate the packets, and do not contain any "specifications" for packing the data into packets as that

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term is used in the present invention. Accordingly, claim 28 is also allowable over Artieri in view of Rege.

Claims 22 and 23 depend from claim 21. Claims 29-41 depend from claim 28. As a matter of law, any dependent claim that depends from an allowable independent claim cannot be obvious and/or anticipated in and of itself. See 35 U.S.C. § 112, ¶ 4. Since the Applicant has evidenced the allowability of independent base claims 21 and 28, the Applicant contends that dependent claims 22, 23 and 29-41 of the present application are also allowable. The Applicants thus respectfully request the rejection of claims 21-23 and 29-41 as being unpatentable over Artieri in view of Rege pursuant to 35 U.S.C. § 103(a) be withdrawn.

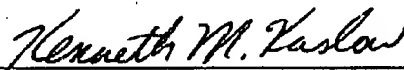{00260294v1}                                    20

## CONCLUSION

The Applicants contend that the Examiner's 35 U.S.C. § 102(b) rejection is overcome by Rege's failure to disclose all of the elements of independent claims 1, 19, and 24. For example, Rege fails to disclose data to be fetched being located in a plurality of locations in the memory, and that that data is retrieved from these locations and then combined into a plurality of data packets in accordance with a packetization scheme based upon the locations of the data. The Examiner's 35 U.S.C. § 103 rejections are overcome for at least the same reasons. That is, all dependent claims of the present application are allowable by virtue of their dependence on (either directly or via an intermediate dependent claim) an allowable base claim.

While the Applicant believes a *Notice of Allowance* is now warranted, the Examiner is invited to contact the Applicant's undersigned representative with any questions concerning the present application.

Respectfully submitted,
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